

(19) World Intellectual Property
Organization
International Bureau



17 MAR 2005



(43) International Publication Date
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number
WO 2004/027384 A2

- (51) International Patent Classification⁷: **G01N**
- (21) International Application Number:
PCT/US2003/029418
- (22) International Filing Date:
17 September 2003 (17.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/411,266 17 September 2002 (17.09.2002) US
- (71) Applicant (for all designated States except US):
PERKINELMER LIFE SCIENCES, INC. [US/US];
549 Albany Street, Boston, MA 02118 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **JOSEPH, Richard, Abraham** [US/US]; 50 Brad Road, Stoughton, MA 02072 (US). **DIMEO, James, Joseph** [US/US]; 442 Central Avenue, Needham, MA 02494 (US).
- (74) Agents: **GOLDSTEIN, Avery, N.** et al.; Gifford, Krass, Groh, Sprinkle, Anderson & Citkowski, P.C., 280 N. Old Woodward Ave., Ste 400, Birmingham, MI 48009 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: REAL-TIME DETECTION OF NUCLEIC ACID REACTIONS

(57) Abstract: A process is provided for using oligonucleotide to which a detectable moiety is attached post-synthesis. A metal-containing fluorescent compound affords real-time detection of nucleic acid elongation, amplification, or hybridization. The process is especially advantageous since a detectable moiety is readily attached to an existing oligonucleotide at an internal nucleotide, rather than being limited to attachment at a 3' or 5' terminus.

WO 2004/027384 A2